



Fumes in the Cockpit

By Lt. Ken Berger II

I was fresh out of the fleet replacement squadron (FRS), 90 hours in type, flying a front-seat event with my first fleet squadron. The flight was an out-and-in to NAS Fallon—simple enough for an airnav flight. Everything went as planned en route to Fallon. The fun didn't start until the return trip to NAS Whidbey Island.

We taxied onto the runway, did our takeoff checklist, and began to run-up the engines. After 1,000 feet of takeoff roll, all four crew members simultaneously announced over the ICS that our eyes were burning. The verdict was unanimous: We had fumes in the cockpit. I quickly executed the smoke and fumes boldfaced procedures, only to discover the fumes still remained as we taxied clear of the active runway.

The mission commander and pilot decided we would assist maintenance by troubleshooting the problem. We sat in our line for a couple of minutes after passing the hot-brakes inspection, and after trying to isolate the problem by running up the engines. The fuel-exhaust fumes did not dissipate at all during the five to 10 minutes we were parked in the line. We then decided to taxi to the alpha taxi and run-up area to troubleshoot further. We still were unable to isolate the fumes in the cockpit after running the engines for several more minutes at a higher rpm.

One thing was for sure: We did notice a stronger fuel-exhaust smell with the engines at the higher rpm setting. The smell of unburned fuel permeated our entire cockpit. Being responsible aviators, we kept the front canopy cracked and also made sure our oxygen masks were on to keep the exhaust-fume inhalation to a minimum.


After running up the engines numerous times without being able to isolate the fumes, we taxied back to the line. (Of note, the Prowler brakes may continue to heat up for two to 10 minutes before reaching their maximum temperature.) Pulling into the hot-brake area proved to

be interesting. When we stopped for a hot-brake inspection, we were told we had hot brakes. We also realized the hot brakes on our port mainmount had caused the wheel-tire fuse plug to blow. The airfield's fire trucks and crash crew had been dispatched for our safety. We sat with fumes in the cockpit, hot brakes and a deflated tire—the hits just kept coming. While we waited, we encountered our third emergency of the day.

Our constant-speed-drive (CSD) light illuminated on our caution-lights panel, indicating our CSD had reached a temperature of at least 260 degrees. We now were in a dilemma; our CSD needed to be shut down before it uncoupled. One small problem, though: We needed someone to catch the fuel from our port motor's primary manifold. Catching the fuel would keep any of the hot fuel from pouring down onto the hot brakes, potentially igniting the fuel.

The crash crew would not let anyone get near the jet because of our brakes. After much heated debate with the crash crew over the temperature of our brakes, we finally got someone to inspect them, which allowed one of our line personnel to catch the fuel. This move also let us shut down the overheated CSD.

Multiple emergencies are a reality. You never can be too sure how many emergency procedures you may encounter at any moment. You constantly should review boldfaced procedures that one day will save your life.

Looking back on our situation, we should have allowed maintenance to troubleshoot the problem once we had pulled into the line the first time. Allowing maintenance to get the job done would have saved us a deflated tire and the hot brakes. Our maintenance department also would have found the port fuel-heat exchanger had blown apart at the seam, which allowed unburned fuel to enter the environmental-control system. 

Lt. Berger flies with VAQ-141.